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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,159	06/24/2003	Robert J. Curran	POU920030019US1	9989

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EXAMINER

PATEL, HETUL B

ART UNIT	PAPER NUMBER
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2186

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/602,159

Applicant(s)

CURRAN ET AL.

Examiner

Hetul Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to communication filed on October 17, 2005. This amendment has been entered and carefully considered. Claim 4 is cancelled and claims 1-3 and 5-13 are again presented for examination.
2. The objection to the specification has been withdrawn due to the Amendment filed on October 17, 2005.
3. Applicant's arguments filed on October 17, 2005 have been fully considered but they are not deemed to be persuasive.
4. The rejection of claims 1-3 and 5-13 as in the previous Office Action mailed is respectfully maintained and reiterated below for Applicant's convenience.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites the limitation "said block" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3, 5-6 and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanfi (USPN: 5,559,991).

As per claim 1, Kanfi teaches a method for performing block level incremental backup operations for a file, especially for a large and/or sparse file, said method comprising the steps of: backing up said file to create a backup copy of said file; processing a write request relevant to at least one block of said file by storing changes in information for said file and by providing an indication that information stored in said at least one block of said file is new data; and backing up said file using at least one select block having said indication that information stored in said at least one block of said file is new data (e.g. see the abstract, Col. 4, lines 49-67 and Figs. 3 and 5). Furthermore, Kanfi teaches that the backing up of at least one select blocks is further determined based on a time stamp, i.e. the time stamp 2 (i.e. 501 in Fig. 5) associated with the current/latest version of the block, associated with said at least one block (e.g. see the abstract, Col. 4, lines 49-67 and Figs. 3 and 5).

As per claims 11-13, see arguments with respect to the rejection of claim 1.

Claims 11-13 are also rejected based on the same rationale as the rejection of claim 1.

As per claim 2, Kanfi teaches the claimed invention as described above and furthermore, Kanfi teaches that the indication, i.e. the signature of the block/file, is stored in inode data for said file (e.g. see Col. 1, lines 33-40).

As per claim 3, Kanfi teaches the claimed invention as described above and furthermore, Kanfi teaches that the indication is stored in indirect blocks, i.e. the blocks those are changed/modified since the last backup or those blocks whose signatures differ from signatures generated, referenced by inode data for said file (e.g. see Col. 8, lines 22-40).

As per claim 5, Kanfi teaches the claimed invention as described above and furthermore, Kanfi teaches that the backing up of at least one select blocks is further determined based on two time stamps, i.e. the time stamp 1 (i.e. 301 in Fig. 3) associated with the older version of the block when it last backed up and the time stamp 2 (i.e. 501 in Fig. 5) associated with the current/latest version of the block, associated with said at least one block (e.g. see the abstract, Col. 4, lines 49-67 and Figs. 3 and 5).

As per claim 6, Kanfi teaches a method for performing block level incremental backup operations for a file using two time stamps as described in Col. 4, lines 49-67 and Figs. 3 and 5. The feature of, retrieving incrementally backed up block level data by providing two time stamps to a file system in a read request; and returning information with respect to changes in said block made between times indicated by said two time stamps, is also inherently embedded in the file system taught by Kanfi.

7. Claim 6 is rejected under 35 U.S.C. 102(e) as being anticipated by Sarkar (USPN: 2004/0158730).

As per claim 6, Sarkar teaches a method for retrieving incrementally backed up block level data, especially from large and/or sparse files, said method comprising the steps of: providing two time stamps (the current PiTC and earlier PiTC) to a file system in a read request; and returning information with respect to changes in said block made between times indicated by said two time stamps, i.e. returning only deltas between the current PiTC and earlier PiTC (e.g. see step 220 in Fig. 2 and the abstract and paragraph [0073]).

8. Claims 7-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Uemura et al. (USPN: 5,720,026) hereinafter, Uemura.

As per claim 7, Uemura teaches a method for backing up sparse files, said method comprising the step of: writing to a backup file in a write request to a file system in which at least one user specified portion of said file is defined to have a specified value and in which the size of said at least one portion is specified by said user (e.g. see the abstract and Col. 11, lines 34-49).

As per claim 8, Uemura teaches the claimed invention as described above and furthermore, Uemura teaches that there are a plurality of said portions, i.e. one or more backup generations specified by the user input (e.g. see Col. 11, lines 34-49).

As per claims 9 and 10, Uemura teaches the claimed invention as described above and furthermore, Uemura teaches about the specified value, i.e. a latest backup

generation number included in the block for referencing a generation in which data has been updated in the block (e.g. see the claim 1). Since neither applicant nor specification disclose changing the specified value would change the system functionality or performance, therefore, any specified value including zero or any other predetermined value can be used, by this rationale, claims 9 and 10 are rejected.

Remarks

9. As to the remark, Applicant asserted that

- (a) In contrast to Kanfi, who relies on heuristic data signatures that must be computed and stored for each data block, the applicants do not use data signatures to determine whether a block has changed. Indeed, the applicants describe the disadvantages of using data signatures in paragraph [0007] of the specification. On the other hand, the applicants do not use heuristic data signatures, but rather provide a method for performing block level incremental backup operations for a file comprising, as recited in amended claims 1 and 11-13.
- (b) Sarkar's anti-virus scan determines whether a current PiTC of the entire file is different from an earlier PiTC of the entire file; he does not teach or suggest any way of determining only the blocks that have changed as recited in claim 6.

(c) Uemura does not teach or suggest dealing with sparse files while the applicants' invention as recited in claims 7-10 is directed specifically to backing up sparse files.

Examiner respectfully traverses Applicant's remark for the following reasons:

With respect to (a), Examiner agreed with Applicant that Kanfi teaches a method for performing block level incremental backup operations for a file based on heuristic data signatures that must be computed and stored for each data block. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., without relying/depending on heuristic data signatures) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

With respect to (b), Examiner agreed with Applicant that Sarkar's anti-virus scan determines whether a current PiTC of the entire file is different from an earlier PiTC of the entire file. Furthermore, Sarkar also teaches that in the step 220 in Fig. 2, the AV software will run the batch mode scan on entire file and return all the deltas between the current and previous PiTCs (e.g. see paragraph [0073]). Here, the deltas are the blocks which are changed between the earlier PiTC and the current PiTC as claimed. Examiner would also like to point out to the Applicant that the feature of determining only the blocks that have changed is present in the method taught by Sarkar as

described by the following example. For example, let's assume a file 'A' has five data blocks 'a', 'b', 'c', 'd' and 'e'. Now if only blocks 'c' and 'e' are changed between given two time stamps, by using Sarkar's method it will return only the delta, i.e. the information only from blocks 'c' and 'e', even if it scans entire file 'A' to determine any information is changed between given two time stamps.

With respect to (c), Examiner does not agree with Applicant that Uemura does not teach or suggest dealing with sparse files because as clearly disclosed in the title and the abstract, Uemura teaches an incremental backup system, i.e. backup system in which data of the files get backed up/archived as the files are growing/modified that is same as backing up the sparse files as claimed in this application.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hetul Patel whose telephone number is 571-272-4184. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER